

## **Interpreting the Venustas Barcinonensis.**

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*ABSTRACT. The expansion and improvement plan of Barcelona city was approved in 1859. 150 years later, the district of Eixample is considered one of the most versatile and successful urban pattern in Western Europe. Ildefons Cerdà was its designer, Modernism is its artistic style and residents are its soul.*

*The aim of this article is study in depth an unprecedented aspect in project and implementation: Is the Eixample of Barcelona beautiful? The answer to this question is resolved through five hypotheses: artistic value versus scientific qualities, regular structure versus singular emplacement, human scale versus regional perspective, scenography versus dynamic city and social identity versus cultural heritage. Beauty is not only in a well-built design, it is in correspondence between solid and flow, between Architecture and mobility, between permanence and tentativeness.*

*KEYWORDS: Beauty, Ildefons Cerdà, Eixample, Barcelona.*

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## 1. Venus vs. Vulcan.

“People often talk as if there was an opposition between what is beautiful and what is useful. There is no opposition to beauty except ugliness (...); utility will be always on the side of the beautiful thing”. (Art and the Handicraftsman, Oscar Wilde)

In classical mythology Venus represented Beauty, love and sensory delight. On the other hand her husband Vulcan, embodied physical deformity and hard mechanical work. Venus was Art and Vulcan was Craft. The Greek myth constantly turns on the balance of opposites: Apollo versus Dionysus, aesthetics versus industry, beauty versus functionality, Ars versus Tekné. Are they complementary?

The technology sets tools and procedures in order to get knowledge, interpreting a superior and natural order. On the other hand art has traditionally tried to code subjacent laws of universal Beauty. Both, Science and Art, converge on devotion to mechanical aesthetics: functional design lacked of trivial ornament. Joseph-August Lux, Austrian critic and writer, put forward: “Is in the field of technology, where the seeds of a new architecture must be found. The technology tries to establish contact with the natural world beyond ourselves. A new concept of pace and space is emerging, a new concept of architecture, a new concept of beauty”, in “Ingenieur Aesthetik” in 1910.

In front of the romantic proposals, located in utopian socialist urbanism, Ildefons Cerdà is a pragmatist. Charles Fourier (1772-1837) proposed the Falanstère, based on ideal self-contained communities, under the influence of the Genevois philosopher Jean-Jacques Rousseau. Opposite to these enclosed, isolated and exclusive colonies, located in the context of the revolutionary theories, Ildefons Cerdà shows an open, extensive and integrated urban model. Its theoretical and scientific corpus is based on statistics, history, topography and economy under a hygienist, moral, political and administrative point of view.

Ildefons Cerdà analyses objectively the livable conditions within walled city. Both buildings and people are susceptible of measurement. Cerdà examined methodologically by separating the industrial society of Barcelona in the 19<sup>th</sup> century and urban development from Ancient times (Roman colonization) until 1855, and he studied their relations. The conclusion was categorical: living conditions in historical centre of Barcelona were the worst in Western Europe. Horrifying data such as early age mortality, life expectancy was 35 years old in wealthy social class, or population density around 890 persons per hectare in front of 90 in London or 350 in Paris, proved it. Life expectancy is actually 80 years old in Barcelona and population density in Eixample District is 328.6 persons per hectare. Therefore the strategic areas of analysis are: built city (dimension of plot, building development, cubic meter per person, constructive and public utility servitudes, etc.), productive

city (productive capacity, business activity in the seaport, industry, etc.), and social city (census, occupation, salaries and costs according to the professional category, etc.). Moreover Ildefons Cerdà trusted in the implementation of the Eixample. He suggested several methods of management (land readjustment and expropriation) with the aim of coming his plan true. The Project of Cerdà arises from the search of better living conditions for the population of Barcelona but its scientific proposals are universal.

(Fig.1)

## **2. Cosmos vs. Chaos.**

"Nature appeared the same throughout the whole world: what we call chaos: a raw confused mass, nothing but inert matter, badly combined discordant atoms of things..." (Metamorphoses. Ovid).

According to classical tradition the Demiurge, artisan or creator God, put in order the original Chaos from a Universal Law based on harmony and measure. Ancient cultures tried to decode a basic and regular structure of the Cosmos. The tools of interpretation used to be the arithmetic (number) and the geometry (elementary figures). The Earth takes part in a heterogeneous, dynamic and measurable universal system therefore its dynamics can be delimited.

Pre-Socratic Philosophy exposes that Nature is composed of basic and stable units. The atomism, theory of Democritus, held that everything is composed of simple, minute indivisible and indestructible inert particles which are the basic components of the Universe. In addition to the solidness of the matter corresponds to the shape and combination of its constituent particles. These perfect elements are proportionately combined and show complementary and divergent associations in a dynamic environment. The Progress is the result of the equilibrium and imbalance between opposites. Beauty is because it is the opposite of ugliness.

The extension plan proposed by Ildefons Cerdà is an urban model which has a universal vocation but it is local in reconnaissance of the territorial structures. The grid is not an original solution. Examples as Miletus, Parma, Buenos Aires or New York prove its operational efficiency. Ildefons Cerdà equipped the extension plan of Barcelona with a well-built local framework. The grid recognizes the place where is located in its topographical limits, in its aspect regarding wind and sun exposure and in the integration of towns around the enclosed city. Ildefons Cerdà plans a territorial network juxtaposed to the local grid. This second scale recognises the historical exits towards France, interior and Mediterranean coast. According to several theories, Arturo Soria y Puig and Miquel Domingo, a hypothetical model of the extension plan of Barcelona presents five levels of organisation. It passes from the block until the plan through of the neighbourhood, district

and sector. Every area has a singular public space or service: courtyard, civic centre, market, hospital and port according to the rank previously described.

The block is the basic unit in the proposal. Its square proportion is representative of the democratic character of the plan. It does not prioritize any direction. Ildefons Cerdà proposes half occupation of the block, emptying the interior courtyard out. The relation between the section of the street and the height of the façade and the fair proportion between pedestrian and road traffic zones prove the order and balance of the extension plan.

### **3. Arithmos vs. Eidon.**

“Everything that is good is fair, and the animal fair is not without proportion. Now we perceive lesser symmetries or proportions and reason about them, but of the highest and greatest we take no heed”. (Timaeus. Plato).

Pythagoras connected existence to measure: If it could not be quantified, it was not. Pythagoreans and Platonists enunciated: “All is number”. Number relates the transcendent world of ideas and the reality, purity and scientific nature. Renaissance architecture recreated the cosmic order and mythical compositions, the abbey of San Lorenzo de El Escorial in Madrid or the monumental axis Reggia di Caserta are two exceptional examples.

Proportion rises from the harmonic disposition of elements which are contained in the totality. Consequently symmetry appears by correspondence between different parts. Man is analogically proportionate to Cosmos and Industry. On the other hand traditional measures like inches, fots, arms... take man as basic unit: “Homo mensura”. Canonical harmony depends on subjective balance. Therefore aesthetic canon is mutable according to the particular circumstances in each time period.

The extension plan of Barcelona is obviously a plan for improve the living conditions of people. The human scale is presented in each decision that Cerdà makes. He defines the systems of movement from man until complex community through several urban ranks (Law of radiation). The following sequence shows the increase of the scale: private room – home – country house – village – town – capital – municipality... The plan extension of Barcelona is the accommodation for inhabitants of old city and new immigration. It reflects the dramatic situation of a city turned into a dehumanized container.

**(Fig.2)**

#### 4. Firmitas urbis vs. Utilitas urbis.

“All the world is a stage, and all the men and women merely players: They have their exits and their entrances, and one man in his time plays many parts...” (As You Like It. William Shakespeare)

Ideal city in Renaissance is a scene, an urban landscape painting. It's static and solid in its monumental architecture. Sforzinda, designed by Antonio di Pietro Averlino *Filarete* probably in 1465, and Utopia, described by Thomas Moore in 1516, are harmonious cities in their geometric proportion. After the fall of Constantinople, Western Europe discovers classical culture, especially Greek philosophy. The Renaissance humanism develops a rational urban model confined within high walls which preserved its singular identity. Ideal city was an island. Its material limits were guarded by impressive enclosures. The gates were the connection element between the security of the urban life and the vulnerability of the unknown environment. A new drawing technique: the perspective, which parameterizes the reality, allows dominating laws of optics. In fact all structuring lines converge in a vanishing point, usually on the horizon. Piero della Francesca shows to us in its ideal city a theatrical scenery (Urbino 1470), a total scenography where no living being has place. In this dehumanized city, Man plays a role of static actor, like a marble sculpture perfectly located.

Contemporary city is a body in motion. It is the manager of urban fluids, functional dynamics and social relationships. Future mobility arises from virtual models. Contemporary city is an intermodal station, a strategic junction within the transnational networks. Standing depends on its centrality and connection with infrastructural system. The extensive and unlimited Metropolis of the future overflows the colonized territory and integrates organically the cultural mosaic and the landscaping values. Man is not exhibited as an isolated piece; its value is in the motion of the crowd.

The locomotive fascinated Ildefons Cerdà in his trip to Nîmes: “I understood that the application of steam power as motive force meant the end of one era and the beginning of another (...) We are in a real transition age”. The extension plan of Barcelona is basically locomotion. Mobility causes the structure of the city: extension of the main axis, pace of crossroads, integration of railway networks, etc. According to the principle of Ildefons Cerdà in his theory: “Road is the first element in urban development”. Ildefons Cerdà designed networks and streets as total work. The street design includes transversal section, cross section, paving, plantation, specialized lanes, uses, crossroads and technical services (gas and water supply, sewer system, etc.). Ildefons Cerdà looked for the internal laws of the systems of movement according to their rank and the relation with neighbours.

## 5. Venustas barcinonensis.

“They admired the magnificent situation of the city, and esteemed it to be the flower of the world, the honour of Spain, the terror of all enemies near and far, the delight of its inhabitants, the refuge of strangers, the school of chivalry, the model of loyalty, in a word, an union of all that a judicious curiosity could desire in a grand, famous, wealthy, and well-built city” (The Two Damsels, Miguel de Cervantes).

“Panta rhei” Plato interprets this famous aphorism like “Everything changes and nothing remains still”. Elements that configure urban dimension flow. Architecture, road structure, civic networks even people are provisional. The materiality of the object is not the most important value but its mark in territory and collective imaginarieness, beyond generations and aesthetical styles. Time is a capital factor in city planning. The Eixample of Barcelona is consequence of century and a half of continuous and heterogeneous development.

The extension plan of Barcelona is the result of its time. Catalan bourgeoisie invested its industrial capital in real properties and the Eixample was its battlefield. Ildefons Cerdà proposed an isotropic, regular and universal grid but upper class wants a monumental, scenographic and formalist urban design. The modernist Intellectuals presented a beaux-arts counterproposal fifty years later: The Plan of Leon Jaussely. The Eixample of Barcelona has been venue for the World Fair in 1888, the International Exposition in 1929, the Olympic Games in 1992 and the Universal Forum of the Cultures in 2004. Each event and period has left its urban mark in this place. But the Eixample is Modernisme (Art Nouveau) both in singular buildings and in urban landscape, appreciating the grid in cultural and historical values. The regular Eixample hides a mosaic of identities and local specificities latent in a multicultural society.

### (Fig.3)

The ideal plan designed by Ildefons Cerdà is a mirage in the built reality, nevertheless the essence remains in mobility structure, alignment, street section, internal courtyard, etc. It is a real and democratic net which arises from the human measure and displacement of urban flows. Barcelona is its Eixample and the Eixample is the identity hallmark of its citizens.

## 6. Legends

(Fig.1) This map shows the topography, hydrography, city boundary and landmarks of the territory in which the extension plan of Barcelona is set, including division of the farmland in 1859. Source: Personal compilation based on the research of Miquel Corominas Ayala. (2009)

(Fig.2) This picture shows the relation between the historical city of Barcelona and the extension plan of Cerdà. It pays special attention to the

present limits of the Eixample District and the dimension of the implemented proposal. Source: the author. (2009)

(**Fig.3**) This aerial map shows the present configuration of the Eixample District. Source: Personal compilation based on the graphic resources of the Institut Cartogràfic de Catalunya (2007).

## 7. Bibliography

- Cerdà Ildefons, *Teoría general de la urbanización, y aplicación de sus principios y doctrinas a la reforma y ensanche de Barcelona*, Instituto de estudios fiscales, Imprenta española, Madrid, 1867.
- Cerdà Ildefons, *Las cinco bases de la teoría general de la urbanización / compilación, estructuración y comentario de Arturo Soria y Puig; prólogo de Albert Serratosa*, Ed. Electa España, Madrid, 1996.
- Cerdà Ildefons, *Teoría de la construcción de las ciudades: Cerdà y Barcelona [Teoría de la viabilidad urbana: Cerdà y Madrid]*, Ministerio para las Administraciones Públicas, Ajuntament de Barcelona, Barcelona, 1991.
- Corominas Miquel, Busquets Joan, *Cerdà i la Barcelona del futur. Realitat versus projecte*, Ed. Centre de Cultura Contemporània de Barcelona i Diputació de Barcelona, Barcelona, 2009.
- Corominas Ayala Miquel, Los orígenes del Ensanche de Barcelona: suelo, técnica e iniciativa, Edicions UPC, Barcelona, 2002.
- Eco Umberto, *Historia de la belleza*, Ed. Lumen, Barcelona, 2004.
- Eco Umberto, *Historia de la fealdad*, Ed. Mondadori, Barcelona, 2007.
- Sabaté Biel Joaquim, *El proyecto de la calle sin nombre: los reglamentos urbanos de la edificación París - Barcelona*, Fundación cop. Caja de Arquitectos, Barcelona, 1999.
- Vitruvio Polión Marco, *Los diez libros de la Arquitectura de Marco Vitruvio Polión*, Velasco Lázaro (traducción castellana). Ed. Cicon, Cáceres, 1999.

## 10. Biography

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